

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

This Amendment is being submitted concurrently with a Request for Continued Examination which also requests entry of the Amendment previously submitted on May 7, 2007.

The previously filed Amendment explained that there exists no reason why a person of ordinary skill in the art would have combined the disclosure in U.S. Patent No. 5,511,551 to *Sano et al.* and the disclosure in U.S. Patent No. 5,031,630 to *Hirano et al.* in the manner recited in independent Claim 18. As explained in that Amendment, *Sano et al.* describes a finger-type measuring device which, due to various constraints, does not lend itself to being modified to include microphones for purposes of detecting Korotkoff sounds.

The Advisory Action issued on June 6, 2007 concludes that the disclosure in *Sano et al.* is not limited to a finger-type blood pressure measuring device. This conclusion is based on the discussion in column 2, lines 16-21 of *Sano et al.* stating that the disclosed cuff is made of a material "which does not stretch regardless of the diameter of the object to be measured (finger, for example)" and the later mention in the same column that, in order to measure a patient's blood pressure, "one inserts the object to be measured (i.e., a finger), and compressed air is pumped into the chamber."

While it is true that *Sano et al.* includes these references to a finger, the fact remains that *Sano et al.* does not disclose using the disclosed blood pressure measuring apparatus as an arm-type blood pressure measuring apparatus. Indeed,

nowhere does *Sano et al.* state that the disclosure is also applicable to arm-type blood pressuring measuring apparatus. That *Sano et al.* may utilize certain language in describing the disclosed finger-type blood pressure measuring apparatus does not support the conclusion that *Sano et al.* discloses a blood pressure measurement apparatus is also applicable as an arm-type blood pressure measurement apparatus, particularly where, as here, *Sano et al.*'s disclosure seeks to address perceived problems associated with finger-type blood pressure measurement apparatus as discussed in the background portion of *Sano et al.*

The Advisory Action also comments that the claims in *Sano et al.* support the conclusion that the disclosed blood pressure measurement device is not limited to a finger-type blood pressure measurement device. Here the Advisory Action notes that only certain of the dependent claims in *Sano et al.* refer to a finger-type blood pressure apparatus. However, the Federal Circuit has held that such reliance upon the claims of a patent is improper.

The Federal Circuit's decision in *In re Benno*, 768 F.2d 1340, 226 USPQ 683 (Fed. Cir. 1985). involved an appeal from a decision by the Patent Office Board of Patent Appeals and Interferences which had sustained an Examiner's rejection based on a prior art reference to Danti. The Board's decision commented that

[w]hile Danti discloses, in figure 1, a package in which both webs encircle the containers in a vertical direction, *Claim 1 of Danti is broad enough to read on* a package with the inner web encircling the containers in a horizontal direction and the outer web encircling the containers in a vertical direction. Such a configuration of tensioned webs would have been obvious from Danti alone. [Emphasis in original.]

The Federal Circuit rejected this reasoning by the Board, pointing out that the "scope of a patent's claims determines what infringes the patent; it is no measure of what it discloses." *Id.* 768 F.2d at 1346, 226 USPQ at 686.

Thus, the observation that only certain dependent claims in *Sano et al.* make specific reference to a finger-type blood pressure apparatus in no way supports the conclusion that *Sano et al.* discloses an arm-type blood pressure measuring apparatus.

It is, of course, understood that the claims at issue in this application pertain to the structure of cuff apparatus. However, as explained in the prior response, the reason why the distinction between the finger-type blood pressure measuring apparatus disclosed in *Sano et al.* and the arm-type blood pressure measuring apparatus disclosed in *Hirano et al.* is significant is that it would not have been obvious to provide *Sano et al.*'s finger-type blood pressure measuring apparatus with microphones such as used in *Hirano et al.*'s arm-type blood pressure measuring apparatus.

In addition to the foregoing, a further distinction pointed out the prior response is that Claim 18 recites the first and second microphones being arranged in opposition to one another. As explained previously, this positioning of the microphones allows the claimed cuff apparatus to be used in connection with both the right upper and the left upper arm. The Advisory Action addresses this point by stating that this distinction only pertains to the functional difference associated with use of plural microphones. That observation is not accurate.

Claim 18 recites that the first and second microphones are arranged in the airbag to oppose each other. This opposing relationship of the first and second

microphones is a structural difference. While it is true that there is an associated functional difference, the claim itself expresses a structural difference -- two microphones positioned in opposition to one another. This positioning of the microphones is not disclosed in *Hirano et al.*

As explained in the prior response, *Hirano et al.*'s inflatable cuff includes a first set of sensing elements 18, 20, 22 and a second set of sensing elements 24, 26, 28. *Hirano et al.* states beginning in line 47 of column 3 and beginning in line 12 of column 7 that the sensing elements 18, 20, 22 are arranged in the proximal end area (as seen with reference to the width direction of the cuff) of the cuff inner surface along the lengthwise direction of the cuff, and the sensing elements 24, 26, 28 are arranged in the middle area (as seen with reference to the width direction of the cuff) of the cuff inner surface along the lengthwise direction. The sensing elements 18, 20, 22 forming the first set are aligned with the sensing elements 24, 26, 28 of the second set. The sensing elements 18, 20, 22 of the first set detect the proximal arterial sounds transmitted from the artery to the proximal area of the cuff, while the sensing elements 24, 26, 28 of the second set detect Korotkoff sounds transmitted from the artery to the middle area of the cuff.

The final Official Action states that one of the sensing elements 18, 20, 22 corresponds to the claimed first microphone, while one of the sensing elements 24, 26, 28 corresponds to the opposing second microphone. However, the Official Action does not explain how the sensing elements 18, 20, 22 can be said to oppose the sensing elements 24, 26, 28. This is particularly so considering that Claim 18 here recites a hollow cylindrical airbag, and first and second microphones arranged in the airbag to oppose each other. Fig. 1 of *Hirano et al.* shows the band-like

element forming the cuff 10 in a flat configuration, before it is wound around the body portion of the patient. In a cylindrical form as required by Claim 18 here, the sensing elements 18, 20, 22 do not oppose the sensing elements 24, 26, 28.

Thus, there exists no reason why one of ordinary skill in the art would combine *Sano et al.* and *Hirano et al.* to arrive at the claimed arrangement set forth in Claim 18 in which first and second microphones are arranged in the airbag to oppose each other. Accordingly, withdrawal of the rejection of Claim 18 is respectfully requested.

In the event the Examiner continues to believe that *Hirano et al.*'s disclosure of a first set of sensing elements 18, 20, 22 and a second set of sensing elements 24, 26, 28 is a disclosure of microphones arranged in a cylindrical airbag to oppose each other, the Examiner is kindly asked to explain the basis for such position.

New independent Claim 37 is also presented for consideration. This claim defines that the cuff apparatus comprises the cylindrical chassis, the hollow cylindrical airbag possessing an upper arm receiving space encircled by the inner layer of the airbag, and the plurality of spaced apart cushions in the airbag. In addition, Claim 37 recites the first and second microphones that are positioned in facing relation to one another at diametrically opposite positions across the upper arm receiving space of the airbag as disclosed in the application and illustrated in, for example, Fig. 6.

Neither *Sano et al.* nor *Hirano et al.* discloses a cuff apparatus having the claimed combination of features recited in Claim 37 including the first and second microphones positioned in facing relation to one another at diametrically opposite

positions across the upper arm receiving space of the airbag. Thus, Claim 37 as also allowable.

The dependent claims also define further distinguishing aspects associated with the claimed cuff apparatus. For example, Claims 23, 24 and 41 recite the circumferentially extending elastic band-shaped member that is attached to the inner side of the outer wall of the airbag and positioned on the inlet side (i.e., closer to the inlet side of the airbag than the outlet side of the airbag relative to the axial direction).

The final Official Action states that the belt 1 disclosed in *Sano et al.* corresponds to the claimed elastic member. However, the belt 1 is not an elastic band-shaped member that is attached to the inner side of the outer wall of an airbag. Indeed, reference "1" in *Sano et al.* identifies the belt itself. In other words, *Sano et al.* does not disclose a circumferentially extending elastic band-shaped member attached to the inner side of the belt 1 at the inlet side.

Claims 29 and 42 recite the cable holder that is attached to the airbag between the pockets that receive the microphones, and further recite a cable that connects the microphones and is supported by the cable holder. The final Official Action states that U.S. Patent No. 3,752,147 to *Castro et al.* discloses a cable holder. However, *Castro et al.* merely discloses an affixing unit 15 forming a pocket for receiving a transducer member (e.g., a microphone). There is no disclosure in *Castro et al.* of a cable holder in addition to this affixing unit/pocket 15, let alone a cable holder supporting a cable connected to two microphones. Indeed, *Castro et al.* does not disclose plural microphones and can thus hardly be said to disclose a cable that connects two microphones and is supported by a cable holder. The Examiner is

respectfully requested to identify the feature in *Castro et al.* corresponding to the cable holder as claimed, and is also asked to identify the cable connecting the two microphones and held by such cable holder as claimed.

Independent Claim 31 defines the engagement holes in the chassis in which are fitted the fasteners on the outer circumferential surface of the airbag, and further recites that the engagement holes each include a large hole and a small hole connected to one another, with the flange of each fastener being moved from the large hole to the small hole to be set in the engagement hole.

Although the Official Action implies that *Sano et al.* discloses such engagement holes, no such engagement holes exist. Indeed, Fig. 7 of *Sano et al.* appears to disclose nothing more than holes which receive respective screws that apparently secure the belt 1 to the case 4. The Examiner is kindly asked to identify the holes in *Sano et al.* that correspond to the claimed engagement holes.

Claims 32 and 43 define that at least one of the fasteners possesses a through hole or conduit for supplying and discharging compressed air into and from the airbag. The final Official Action states that the connector tube 5 in *Sano et al.* includes a conduit or through hole. However, this position is not consistent with the earlier interpretation in the final Official Action that the screws in *Sano et al.* correspond to the claimed fasteners. If the unnumbered screws in *Sano et al.* correspond to the claimed fasteners, such screws do not possess a through hole or conduit for supplying and discharging compressed air into and from the airbag. If the hole in the connector tube 5 corresponds to the claimed through hole or conduit for supplying and discharging compressed air into and from the airbag, the connector tube 5 is not a fastener that connects the airbag to the chassis as claimed.

Claim 39 defines the auxiliary cushion whose thickness gradually increases in the direction toward the outlet side of the airbag, and Claim 40 recites that the first, second and third cushions each possess a wavy-shaped side opposing the inner circumferential surface of the airbag, while the side of the auxiliary cushion opposing the inner circumferential surface of the airbag is not wavy-shaped. Quite clearly, in *Sano et al.*, all of the protruding bodies 12 are configured in the same manner.

Claim 35 recites that the inner circumferential surface of the cylindrical airbag received in the chassis is covered with a cloth cover made of flexible fibers (generally shown as 30 in Fig. 9 of the present application), and Claim 36 further defines that the cloth cover is formed in the shape of a hollow cylinder and has an elastic ring at each end, with the elastic rings being fitted in recesses formed in a housing of a sphygmomanometer to removably secure the cloth cover to the housing.

The final Official Action states that the cuff holder 121 in *Sano et al.* corresponds to the claimed cloth cover, while the cuff holder segment 122 corresponds to the claimed elastic member. However, *Sano et al.* states beginning in line 41 of column 7 that the cuff main unit 120 is inserted into the cuff holder 121 and is then attached to cuff holder segment 122. Thus, the cuff holder 121 does not cover the inner circumferential surface of a cylindrical airbag as claimed. *Sano et al.* also does not state that the cuff holder 121 is a cloth cover. Additionally, there is no disclosure that the cuff holder segment 122 in *Sano et al.* is an elastic ring as claimed. Further, *Sano et al.* discloses a single cuff holder segment 122 at one end of the cuff holder 121. This is in contrast to the claimed elastic ring at each end of a

cloth cover, with the elastic rings being fitted in recesses formed in a housing of a sphygmomanometer to removably secure the cloth cover to the housing.

Early and favorable action with respect to this application is respectfully requested.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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